The Post Office Electrical Engineers' Journal

INDEX

VOLUME 67

(April 1974–January 1975)

PAGE NO.

A

A.C. No. 13 Inter-P.B.X. Working on a P.A.B.X. No. 7, Signalling System 244
ANSELL, M. J., PETTERSON, O. and VINCENT, M. H. The CANTAT 2 Cable System: Terminal Equipment .. 153
Associate Section National Committee Report, The 62, 122, 191, 252
Associate Section Notes 61, 121, 190, 251
Automatic-Frequency-Control System for High-Frequency Radio Receivers, An 115

B

Background and General Principles, The London Sector Plan: 3
BATES, Capt. O.R. The CANTAT 2 Cable System: Planning and Laying the Cable 148
BEALES, K. J., MIDWINTER, J. E., NEWNS, G. R., and DAY, C. R. Materials and Fibre for Optical Transmission Systems 80
BELL, R. L., BLOXHAM, G., and CALLAGHAN, B. F. TXK3 Director-Area Local Exchanges using BXB 1112 Crossbar Equipment
Part 1—Trunking and General Operation 66
Part 2—System Features and Maintenance Arrangements 169
BENSON, D. L. Local-Exchange Renewal Strategy: Formulating a Strategy 130
BIRT, J. F., and WHERRY, A. B. The London Sector Plan: Background and General Principles 3
BIRT, J. F., and YEO, B. F. A Traffic-Forecasting Technique 206
BLOXHAM, G., CALLAGHAN, B. F., and BELL, R. L. TXK3 Director-Area Local Exchanges using BXB 1112 Crossbar Equipment
Part 1—Trunking and General Operation 66
Part 2—System Features and Maintenance Arrangements 169
Book Reviews 36, 56, 60, 62, 79, 87, 101, 141, 246
BREARY, D. A Long-Term Study of the United Kingdom Trunk Network
Part 2—Network-Layout Studies and General Conclusions 37
BXB 1112 Crossbar Equipment, TXK3 Director-Area Local Exchanges using
Part 1—Trunking and General Operation 66
Part 2—System Features and Maintenance Arrangements 169

C

Cable Communication, The Effects of Power-Supply Transients on British Post Office 240
Cable Laying by Satellite Navigation 161
Cable System, The CANTAT 2:
Evolution and Design 142
Planning and Laying the Cable 148
Terminal Equipment 153

PAGE NO.

Cable, The CANTAT 2 Cable System: Planning and Laying the 148
CALLAGHAN, B. F., BELL, R. L., and BLOXHAM, G. TXK3 Director-Area Local Exchanges using BXB 1112 Crossbar Equipment
Part 1—Trunking and General Operation 66
Part 2—System Features and Maintenance Arrangements 169
CANTAT 2 Cable System, The:
Evolution and Design 142
Planning and Laying the Cable 148
Terminal Equipment 153
CARD, S. E., and LITTLEMORE, D. T. Push-Button Telephones 224
Circuit Laboratory, The: 1924–1974 176
CLEMENTS, K. F. Programming Languages for Stored-Program Control 217
CLOW, D. G. Steel Masts and Towers in the British Post Office
Part 2—Materials, Methods and Applications 49
Part 3—Structural Testing 102
Computer-Aided Design in the British Post Office 109
Control for Director-Area Local Exchanges, A New Register-Translator using Stored-Program 181
Control, Programming Languages for Stored-Program .. 217
CROOKS, K. R. Local-Exchange Renewal Strategy: A Model for Decision 136
Crossbar Equipment, TXK3 Director-Area Local Exchanges using BXB 1112 66
Part 1—Trunking and General Operation 66
Part 2—System Features and Maintenance Arrangements 169

D

Data-Transmission Service, Experimental Packet-Switched: Network Design and Implementation 88
Datel Modem No. 1F, The Latest Modem for the Datel 600 Service— 95
Datel 600 Service—Datel Modem No. 1F, The Latest Modem for the 95
DAVIES, A. P., and VINCENT, A. W. H. The CANTAT 2 Cable System: Evolution and Design 142
DAY, C. R., BEALES, K. J., MIDWINTER, J. E., and NEWNS, G. R. Materials and Fibre for Optical Transmission Systems 80
Demand Assignment Equipment—SPADE—for Satellite Communications, Single-Channel-per-Carrier, Pulse-Code-Modulation, Multiple-Access, ... 42
Design in the British Post Office, Computer-Aided .. 109
Design of the Switching System, The London Sector Plan: .. 16
Development of Telecommunications, Trends in the .. 194
Director-Area Local Exchanges, A New Register-Translator using Stored-Program Control for 181
Director-Area Local Exchanges using BXB 1112 Crossbar Equipment, TXK3
Part 1—Trunking and General Operation 66
Part 2—System Features and Maintenance Arrangements 169

PAGE NO.

DUNN, R. T., and HOOKER, D. S. A New Register-Translator using Stored-Program Control for Director-Area Local Exchanges 181
DYOTT, R. B. The Optical Fibre as a Transmission Line .. 164

E

Editorial 1, 65, 129, 193
EDMONDS, C. A., and HOLLIGON, E. R. The London Sector Plan: Maintenance of Sector Switching Centres .. 25
Electronic Exchange, Teletraffic Studies of the TXE2 .. 73
Engineering Innovation in a Service Industry: Post Office Telecommunications 196
Equipment, The CANTAT 2 Cable System: Terminal .. 153
Evolution and Design, The CANTAT 2 Cable System: .. 142
Exchange Renewal Strategy, Local-:
Foreword 130
Formulating a Strategy 130
A Model for Decision 136
Exchanges, A New Register Translation using Stored-Program Control for Director-Area Local 181
Exchanges using BXB 1112 Crossbar Equipment, TXK3 Director-Area Local
Part 1—Trunking and General Operation 66
Part 2—System Features and Maintenance Arrangements 169
Exchange, Teletraffic Studies of the TXE2 Electronic .. 73
Experimental Packet-Switched Data-Transmission Service: Network Design and Implementation 88
Experimental Packet-Switched Service: Procedures and Protocols
Part 1—Packet Formats, Facilities and Switching .. 232

F

Fibre as a Transmission Line, The Optical 164
Fibre for Optical Transmission Systems, Materials and .. 80
Fibre Telecommunication Transmission Systems, Optical- .. 32
Fibre Transmission Systems, Photodiodes for Optical- .. 213
Fibre Transmission Systems, Sources for Optical- 208
Forecasting Technique, A Traffic- 206
Forecasting, Telephone Traffic Recording and 201
Foreword, Local-Exchange Renewal Strategy: 130
Formulating a Strategy, Local-Exchange Renewal Strategy: 130

H

HADLEY, D. E., and MEDCRAFT, D. W. F. Experimental Packet-Switched Data-Transmission Service: Network Design and Implementation 88
HALL, B., and LILLY, C. J. The Effects of Power-Supply Transients on British Post Office Cable Communication 240
HALL, G. C. Single-Channel-per-Carrier, Pulse-Code-Modulation, Multiple-Access, Demand Assignment Equipment—SPADE—for Satellite Communications .. 42
HART, M., and MACKIE, R. H. Signalling System A.C. No. 13 Inter-P.B.X. Working on a P.A.B.X. No. 7 244
High-Frequency Radio Receivers, An Automatic-Frequency-Control System for 115
HOLLIGON, E. R., and EDMONDS, C. A. The London Sector Plan: Maintenance of Sector Switching Centres .. 25
HOLMES, H. S. Telephone Traffic Recording and Forecasting 201
HOOKER, D. S., and DUNN, R. T. A New Register-Translator using Stored-Program Control for Director-Area Local Exchanges 181

I

Innovation in a Service Industry, Engineering: Post Office Telecommunications 196
Institution of Post Office Electrical Engineers 62, 123, 191, 252
Inter-P.B.X. Working on a P.A.B.X No. 7, Signalling System A.C. No. 13 244

L

Laboratory, The Circuit: 1924–1974 176
LANGDOWN, P. J., and WALUJI, A. A. The London Sector Plan: Design of the Switching System 16
Languages for Stored-Program Control, Programming .. 217
Laying by Satellite Navigation, Cable 161
Laying the Cable, The CANTAT 2 Cable System: Planning and 148
LILLY, C. J., and HALL, B. The Effects of Power-Supply Transients on British Post Office Cable Communication 240
LITTLEMORE, D. T., and CARD, S. E. Push-Button Telephones 224

PAGE NO.

Local-Exchange Renewal Strategy:
Foreword 130
Formulating a Strategy 130
A Model for Decision 136
Local Exchanges, A New Register-Translator using Stored-Program Control for Director-Area 181
Local Exchanges using BXB 1112 Crossbar Equipment, TXK3 Director-Area
Part 1—Trunking and General Operation 66
Part 2—System Features and Maintenance Arrangements 169
London Sector Plan, The:
Background and General Principles 3
Planning for Sector Switching Centres 9
Design of the Switching System 16
Maintenance of Sector Switching Centres 25
Long-Term Study of the United Kingdom Trunk Network, A Part 2—Network-Layout Studies and General Conclusions 37

M

MACKIE, R. H., and HART, M. Signalling System A.C. No. 13 Inter-P.B.X. Working on a P.A.B.X. No. 7 244
Maintenance of Sector Switching Centres, The London Sector Plan: 25
Masts and Towers in the British Post Office, Steel
Part 2—Materials, Methods and Applications 49
Part 3—Structural Testing 102
Materials and Fibre for Optical Transmission Systems .. 80
MATTHEWS, M. R., and SMITH, D. R. Photodiodes for Optical-Fibre Transmission Systems 213
MEDCRAFT, D. W. F., and HADLEY, D. E. Experimental Packet-Switched Data-Transmission Service: Network Design and Implementation 88
MERRIMAN, J. H. H. Engineering Innovation in a Service Industry: Post Office Telecommunications 196
MIDWINTER, J. E., NEWNS, G. R., DAY, C. R., and BEALES, K. J. Materials and Fibre for Optical Transmission Systems 80
Model for Decision, Local-Exchange Renewal Strategy: A .. 136
Modem for the Datel 600 Service—Datel Modem No. 1F, The Latest 95
Modem No. 1F, The Latest Modem for the Datel 600 Service—Datel 95
Multiple-Access, Demand Assignment Equipment—SPADE—for Satellite Communications, Single-Channel-per-Carrier, Pulse-Code-Modulation, ... 42

N

Navigation, Cable Laying by Satellite 161
NEIL, W., SPOONER, M. J., and WILSON, E. J. Experimental Packet-Switched Service: Procedures and Protocols Part 1—Packet Formats, Facilities and Switching .. 232
NEWMAN, D. H. Sources for Optical-Fibre Transmission Systems 208
NEWNS, G. R., DAY, C. R., BEALES, K. J., and MIDWINTER, J. E. Materials and Fibre for Optical Transmission Systems .. 80
Notes and Comments 57, 118, 187, 254

O

Optical Fibre as a Transmission Line, The 164
Optical-Fibre Telecommunication Transmission Systems .. 32
Optical-Fibre Transmission Systems, Photodiodes for .. 213
Optical-Fibre Transmission Systems, Sources for 208
Optical Transmission Systems, Materials and Fibre for .. 80

P

P.A.B.X. No. 7, Signalling System A.C. No. 13 Inter-P.B.X. Working on a 244
Packet-Switched Data-Transmission Service, Experimental: Network Design and Implementation 88
Packet-Switched Service, Experimental: Procedures and Protocols
Part 1—Packet Formats, Facilities and Switching .. 232
PEDERSEN, G. V. C. Trends in the Development of Telecommunications 194
PETTERSON, O., VINCENT, M. H., and ANSELL, M. J. The CANTAT 2 Cable System: Terminal Equipment .. 153
Photodiodes for Optical-Fibre Transmission Systems .. 213
Planning and Laying the Cable, The CANTAT 2 Cable System: 148
Planning for Sector Switching Centres, The London Sector Plan: 9

PAGE NO.

Post Office Press Notices 63, 124, 254
Post Office Telecommunications, Engineering Innovation in a Service Industry: 196
Power-Supply Transients on British Post Office Cable Communication, The Effects of 240
Procedures and Protocols, Experimental Packet-Switched Service:
Part 1—Packet Formats, Facilities and Switching .. 232
Programming Languages for Stored-Program Control .. 217
Protocols, Experimental Packet-Switched Service: Procedures and
Part 1—Packet Formats, Facilities and Switching .. 232
PUGH, A. R. The Latest Modem for the Datel 600 Service—Datel Modem No. 1F 95
PULLIN, A. E. Computer-Aided Design in the British Post Office 109
Pulse-Code-Modulation, Multiple-Access, Demand Assignment Equipment—SPADE— for Satellite Communications, Single-Channel-per-Carrier, ... 42
Push-Button Telephones 224

R

Radio Receivers, An Automatic-Frequency-Control System for High-Frequency 115
Recording and Forecasting, Telephone Traffic 201
Regional Notes 58, 118, 188, 247
Register-Translator using Stored-Program Control for Director-Area Local Exchanges, A New 181
Renewal Strategy, Local-Exchange:
Foreword 130
Formulating a Strategy 130
A Model for Decision 136
REYNOLDS, A. St. J. An Automatic-Frequency-Control System for High-Frequency Radio Receivers 115
RICHARDSON, J. Cable Laying by Satellite Navigation .. 161
ROBERTS, F. F. Optical-Fibre Telecommunication Transmission Systems 32

S

Satellite Communications, Single-Channel-per-Carrier, Pulse-Code-Modulation, Multiple-Access, Demand Assignment Equipment—SPADE—for 42
Satellite Navigation, Cable Laying by 161
Sector Plan, The London:
Background and General Principles 3
Planning for Sector Switching Centres 9
Design of the Switching System 16
Maintenance of Sector Switching Centres 25
Sector Switching Centres, The London Sector Plan: Maintenance of 25
Sector Switching Centres, The London Sector Plan: Planning for 9
Service, Experimental Packet-Switched: Procedures and Protocols
Part 1—Packet Formats, Facilities and Switching .. 232
Service Industry, Engineering Innovation in a: Post Office Telecommunications 196
Signalling System A.C. No. 13 Inter-P.B.X. Working on a P.A.B.X. No. 7 244
Single-Channel-per-Carrier, Pulse-Code-Modulation, Multiple-Access, Demand Assignment Equipment—SPADE—for Satellite Communications 42
SMITH, D. R., and MATTHEWS, M. R. Photodiodes for Optical-Fibre Transmission Systems 213
Sources for Optical-Fibre Transmission Systems 208
SPADE—for Satellite Communications, Single-Channel-per-Carrier, Pulse-Code-Modulation, Multiple-Access, Demand Assignment Equipment— 42
SPOONER, M. J., WILSON, E. J., and NEIL, W. Experimental Packet-Switched Service: Procedures and Protocols
Part 1—Packet Formats, Facilities and Switching .. 232
STACEY, R. R. Teletraffic Studies of the TXE2 Electronic Exchange 73
Steel Masts and Towers in the British Post Office
Part 2—Materials, Methods and Applications .. 49
Part 3—Structural Testing 102
Stored-Program Control for Director-Area Local Exchanges, A New Register-Translator using 181
Stored-Program Control, Programming Languages for .. 217
Study of the United Kingdom Trunk Network, A Long-Term
Part 2—Network-Layout Studies and General Conclusions 37
Switching System, The London Sector Plan: Design of the .. 16

T

Telecommunications, Engineering Innovation in a Service Industry: Post Office 196
Telecommunications, Trends in the Development of .. 194
Telephones, Push-Button 224
Telephone Traffic Recording and Forecasting 201
Teletraffic Studies of the TXE2 Electronic Exchange .. 73
Terminal Equipment, The CANTAT 2 Cable System: .. 153
Towers in the British Post Office, Steel Masts and
Part 2—Materials, Methods and Applications 49
Part 3—Structural Testing 102
Traffic-Forecasting Technique, A 206
Traffic Recording and Forecasting, Telephone 201
Transients on British Post Office Cable Communication, The Effects of Power-Supply 240
Translator using Stored-Program Control for Director-Area Local Exchanges, A New Register- 181
Transmission Line, The Optical-Fibre as a 164
Transmission Systems, Materials and Fibre for Optical .. 80
Transmission Systems, Optical-Fibre Telecommunication .. 32
Transmission Systems, Photodiodes for Optical-Fibre .. 213
Transmission Systems, Sources for Optical Fibre 208
Trends in the Development of Telecommunications .. 194
Trunk Network, A Long-Term Study of the United Kingdom
Part 2—Network-Layout Studies and General Conclusions 37
TXE2 Electronic Exchange, Teletraffic Studies of the .. 73
TXK3 Director-Area Local Exchanges using BXB 1112 Crossbar Equipment
Part 1—Trunking and General Operation 66
Part 2—System Features and Maintenance Arrangements 169

U

United Kingdom Trunk Network, A Long-Term Study of the
Part 2—Network-Layout Studies and General Conclusions 37

V

VINCENT, A. W. H., and DAVIES, A. P. The CANTAT 2 Cable System: Evolution and Design 142
VINCENT, M. H., ANSELL, M. J., and PETTERSON, O. The CANTAT 2 Cable System: Terminal Equipment .. 153

W

WALIJI, A. A., and LANGDOWN, P. J. The London Sector Plan: Design of the Switching System 16
WELLER, D. C. The Circuit Laboratory: 1924–1974 176
WHERRY, A. B., and BIRT, J. F. The London Sector Plan: Background and General Principles 3
WHYTE, J. S. Local-Exchange Renewal Strategy: Foreword 130
WILSON, E. J., NEIL, W., and SPOONER, M. J. Experimental Packet-Switched Service: Procedures and Protocols Part 1—Packet- Formats, Facilities and Switching .. 232

Y

YEO, B. F., and BIRT, J. F. A Traffic-Forecasting Technique 206
YEO, B. F. The London Sector Plan: Planning for Sector Switching Centres 9

Published by *The Post Office Electrical Engineers' Journal*, 2–12 Gresham Street, London, EC2V 7AG
and printed in Great Britain by Unwin Brothers Limited, The Gresham Press, Old Woking, Surrey